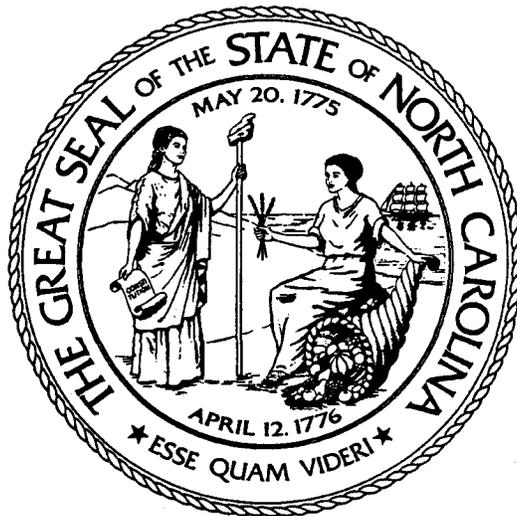
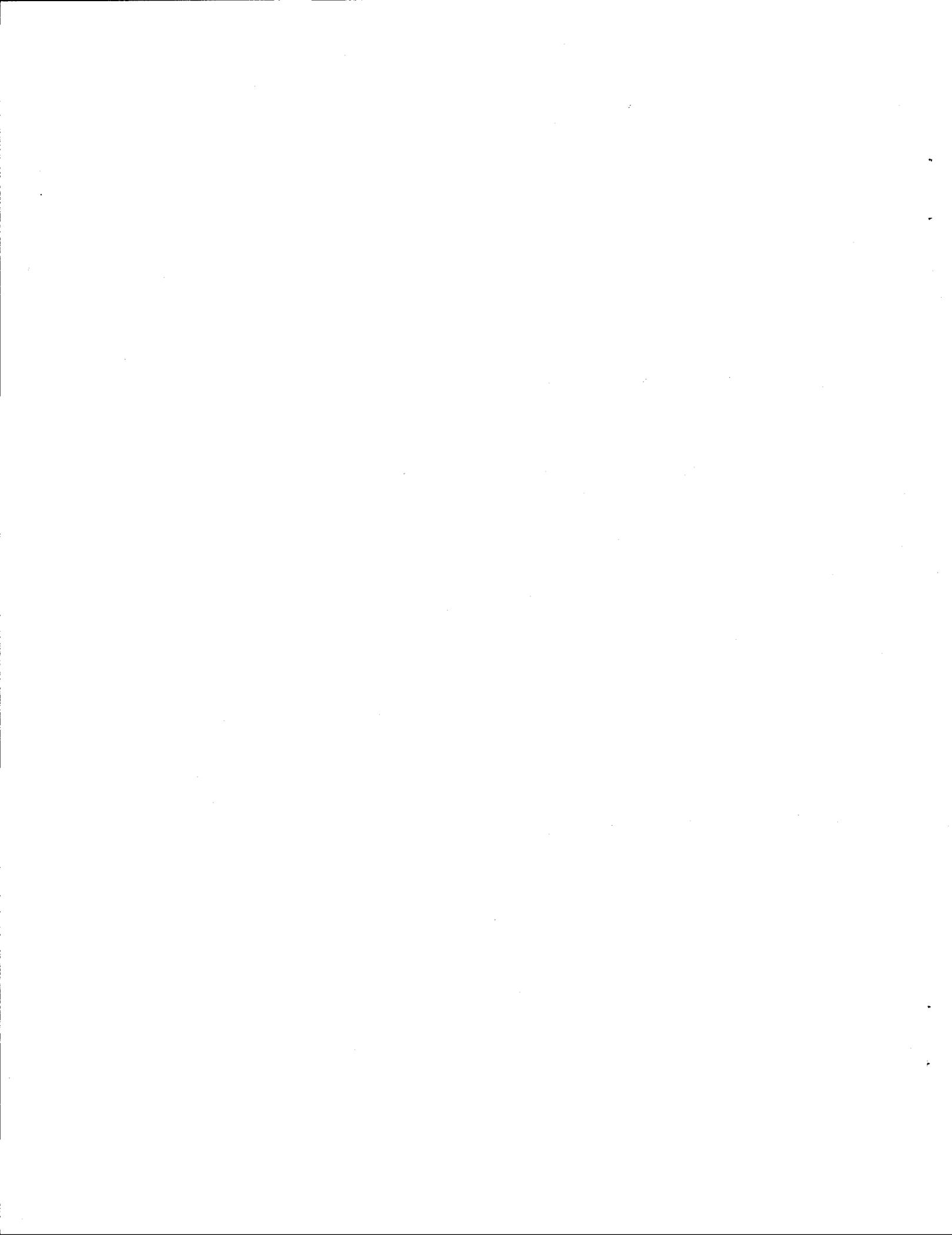


**LEGISLATIVE COMMITTEE ON
NEW LICENSING BOARDS**

WELL AND PUMP CONTRACTORS



**ASSESSMENT REPORT
1995**





North Carolina General Assembly

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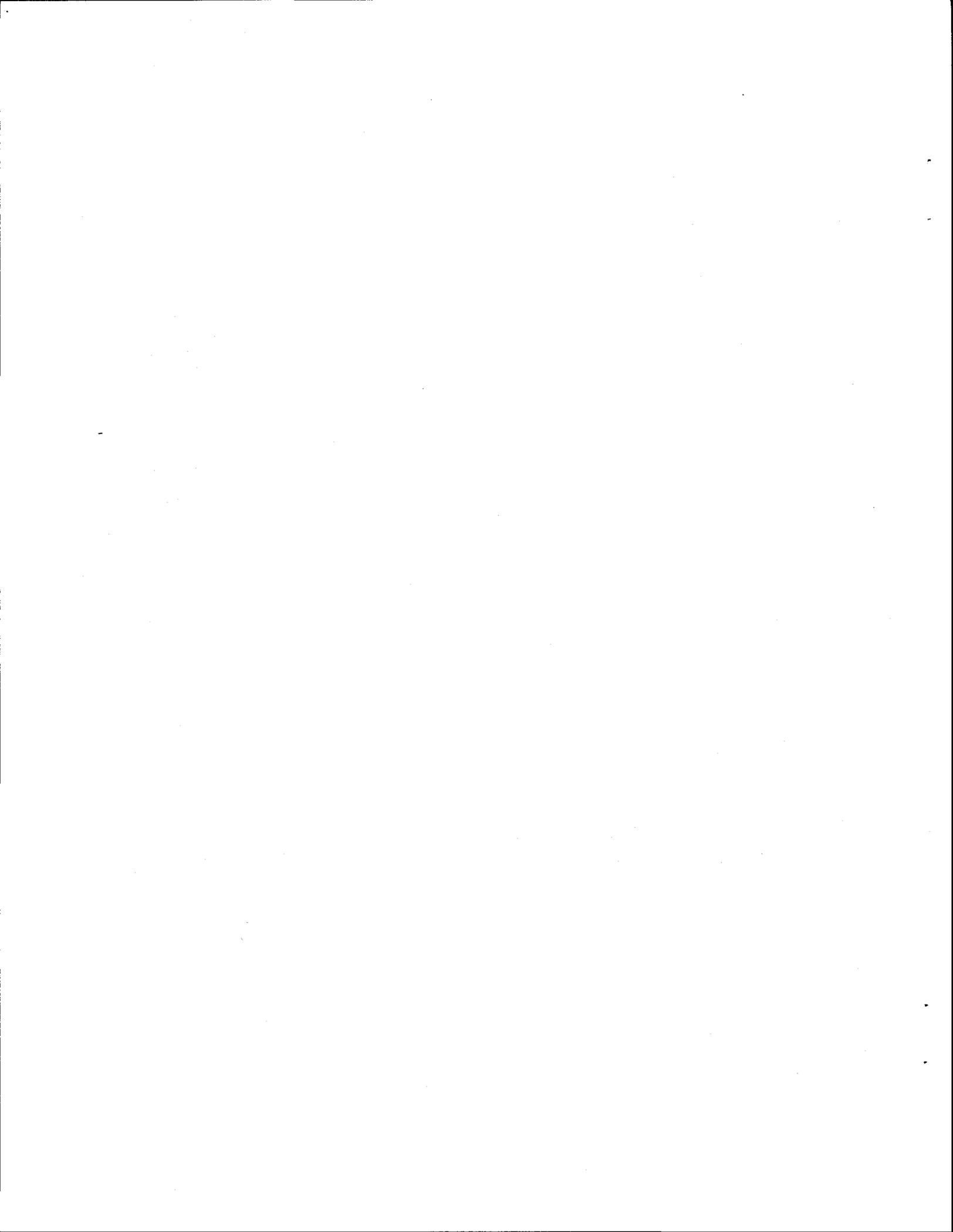
TO THE MEMBERS OF THE GENERAL ASSEMBLY:

Attached for your consideration is the assessment report on the licensing of well contractors and pump contractors (House Bill 814). This report serves as both the preliminary and final assessment reports, as required under Article 18A of Chapter 120 of the General Statutes.

Senator David Parnell, Chairman
Legislative Committee on New Licensing Boards

PREPARED BY:
Linwood Jones, Counsel
Legislative Committee on New Licensing Boards





**MEMBERS OF THE LEGISLATIVE COMMITTEE
ON NEW LICENSING BOARDS**

(1995-96)

Senator David Parnell, Chairman

Senator Frank Ballance

Representative Michael Decker

Senator Fred Hobbs

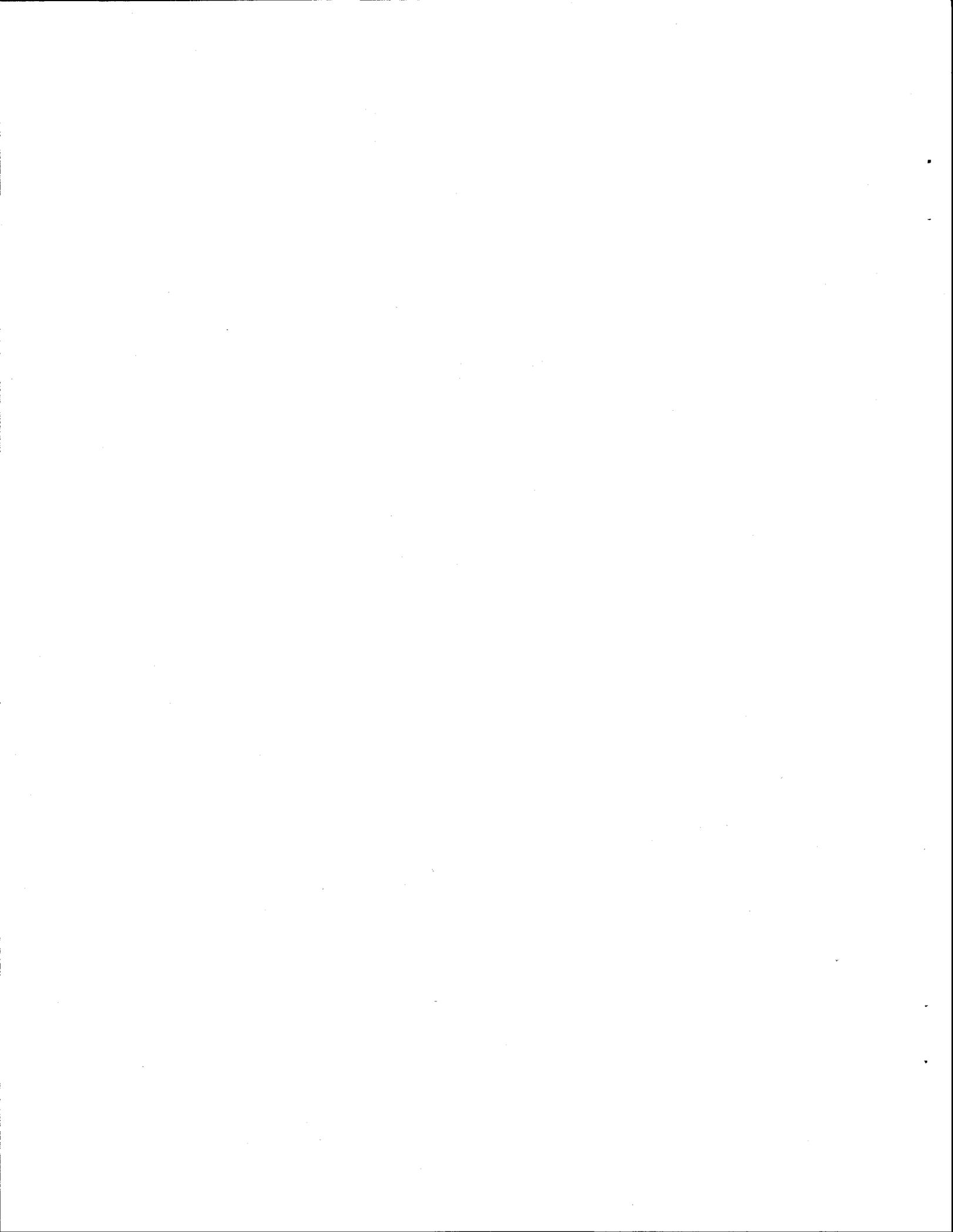
Representative Linwood Mercer

Senator Paul Smith

Representative Frank Mitchell

Senator R.C. Soles

Representative Wilma Sherrill



ASSESSMENT REPORT

House Bill 814 creates the Well Contractors and Pump Contractors Certification Commission within the Department of Environment, Health, and Natural Resources to license well contractors and pump contractors. Well contractors are persons engaged in the business of installing, constructing, repairing, altering, or abandoning wells. Pump contractors are persons engaged in the business of installing or repairing well pumping equipment. Persons performing these activities on wells on their own land are not covered by the bill.

There is potential for substantial harm if well contractors are not licensed. Contamination of groundwater can lead to serious health problems for those who rely on the groundwater as a source of drinking water. As much as 50% of the State's population and 95% of the rural population uses groundwater as its exclusive source of drinking water. The general public does not have sufficient understanding of hydrogeology, proper well construction, well disinfection, and related areas to determine whether well and pump contractors are properly installing and repairing the wells and well pumps. The Department does require registration of well drillers and pump contractors (15A NCAC 2C.0103), but this registration process does not inquire into the driller's or installer's competency and therefore provides no assurances to the public that the practitioner will perform the job correctly.

Water well and pump contracting requires specialized skill and training, including the ability to operate drill rigs, understand plumbing and electrical wiring, determine appropriate plumbing systems, understand groundwater hydrology, geologic formations, sources of groundwater contamination, and the advantages and disadvantages of various well casings, well screens, drilling bits, specialized tools, and circulation fluids. The Well Construction Act (Chapter 87 of the General Statutes) and accompanying regulations require wells to be constructed to certain standards primarily to avoid groundwater contamination. However, these laws and regulations are of little help if the well driller or pump installer fails to properly perform the repair, installation, or construction.

The Legislative Committee on New Licensing Boards finds that:

Assessment Report

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- (1) The unregulated practice of well and pump contracting can substantially harm or endanger the public health, safety, or welfare;
- (2) The practice of well and pump contracting possesses qualities that distinguish it from ordinary labor;
- (3) Water well and pump contracting requires specialized skill or training;
- (4) A substantial majority of the public does not have the knowledge or experience to evaluate the practitioners' competence;
- (5) The public cannot be effectively protected by other means; and
- (6) Licensure would not have a substantial adverse economic impact upon consumers.

The Committee on New Licensing Boards recommends the licensing of well contractors and pump contractors.

This assessment report is based on the proposal to license well and pump contractors, as contained in House Bill 814 and the questionnaire responses submitted by the sponsor (attached).



North Carolina General Assembly
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May 15, 1995

COMMITTEES:
 APPROPRIATIONS
 CO-CHAIRMAN: HUMAN RESOURCES
 HEALTH AND ENVIRONMENT
 JUDICIARY II
 LOCAL AND REGIONAL GOVERNMENT II
 WELFARE REFORM AND HUMAN RESOURCES

MEMORANDUM

To: David R. Parnell, Chairman
 Legislative Standing Committee on New Licensing Plans

From: Representative Charlotte Gardner

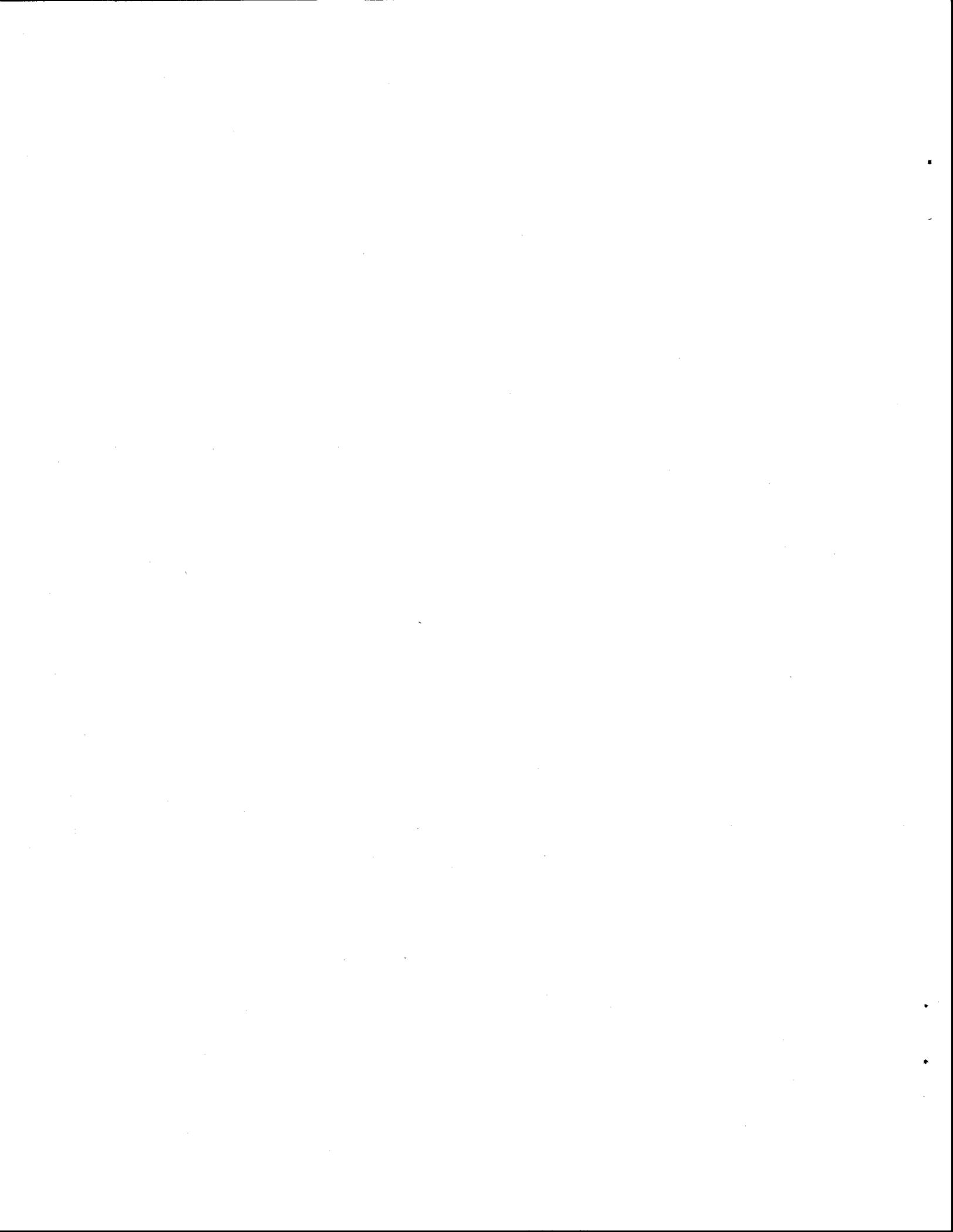
Subject: House Bill 814
 Well and Pump Contractors

Pursuant to Rule 35.1 of the North Carolina General Assembly the subject bill is being submitted to your committee for consideration and preparation of an assessment report.

To help facilitate your consideration of this request I am providing the information that is requested in your supplemental form to help address the criteria specified in Article 18A NCGS 120-149.1.(1)-(6) and NCGS 120-149.4.(a)(1)-(10).

Please let me know if you require any additional information to complete your assessment of this bill.





Department of Environment, Health and Natural Resources
Responses to the Committee on New Licensing Boards
House Bill 814
Well and Pump Contractors

- I. A. In what ways has the marketplace failed to regulate adequately the profession or occupation.

Improperly constructed wells, or improperly installed/ repaired pumps, will serve as a source or conductor of surface/near surface contaminants into the underground water reservoirs. Additionally, there are a number of specialized skills required to properly construct/repair wells or install/repair pumps. However, there is no presently existing licensing or certification board with the jurisdiction to ensure that those engaged in well or pump contractor activities have the knowledge, skills and abilities necessary to properly provide these contractor services.

- I. B. Have there been any complaints about the regulated profession or occupation? Please give specific examples including complainants names and addresses.

Since 1990 the state has, as a result of complaints and subsequent inspections, issued notices of violation covering more than 625 violations at almost 500 separate water supply wells. Many wells had multiple violations, and many of the violations had resulted in, or posed a threat to, the well owner [i.e., well not grouted; no sanitary well seal; or unsafe wellhead completion; sediment and/or coliform bacteria in the well; well located too close to a septic tank, or other significant potential source of contamination].

- II. A. In what ways has the public health, safety or welfare sustained harm, or is in imminent danger of harm, because of the lack of state regulation.

More than 50% of the citizens of North Carolina rely on groundwater for their drinking water supply. Each of these must have a water supply well. Each citizen relying on an improperly constructed water supply well runs the risk of groundwater contamination and the associated health risks each time it rains or when there is a nearby leak or spill of pesticides, septic tank waste, heating oil, etc. As new wells are constructed by uncertified and potentially unqualified people, additional citizens are exposed to potential health risk.

If the contractors who construct wells/install pumps do not have the necessary training, experience and equipment, then the public will not be able to be assured of:

- 1) A drinking water supply designed to be protective of human health;
- 2) A longer-lived and more reliable source of potable drinking water. One of the primary reasons for the loss of a well or well system is groundwater contamination. Contamination is often caused by the percolation of contaminated rain water down beside the well casing;
- 3) Greater confidence that the well contractor and pump contractor contracted to provide a source of drinking water supply is capable of delivering a well constructed according to established standards, and
- 4) Greater confidence that the well constructed will not have to be replaced due to improper installation.

II. B. Please give specific examples, including names and addresses, of instances where public health, safety, welfare have sustained harm, or threat of harm, because of lack of regulation.

In addition to those instances where well related violations were serious enough to require the state to insure a notice of violation, there have been a number of cases where additional enforcement action was necessary, because the well/pump contractor could not or would not repair the well to standards where it was no longer a threat to human health. A sampling of those cases are as follows:

<u>*Types of Violations</u>	<u>Well Owner Name</u>	<u>Address</u>
(1), (2)	John Smith	Gold Hill, NC
(1), (3)	Barbara Carpenter	Crouse, NC
(1)	Louie Jackson	Salisbury, NC
(1)	Paul Eudy	Concord, NC
(1)	Webster Hollar	Lenoir, NC
(1)	Kenneth Carron	Chocowinity, NC
(1)	Mary Freeole	Salisbury, NC
(1)	Sabrina Kincade	Salisbury, NC
(1)	Todd Arrowood	Vale, NC
(1), (2)	Eddie Hughes	Hickory, NC
(1)	Wm. McLaughlin	Concord, NC
(1), (2)	Farrel Houser	Lincolnton, NC
(1), (2)	Richard Harwell	Hickory, NC
(4)	Todd Johnson	Vale, NC
(1), (2)	Rick Crofts	Newton, NC
(1), (2)	Jesse Clark	Maiden, NC

* Type of Well Violation- Key

- (1) Missing/insufficient/improper cement casing grout
- (2) Improper wellhead completion (no sanitary seal, cracked casing, improper sealing)
- (3) High levels of solids and/or coliform bacteria in well
- (4) Improper well abandonment that threatens drinking water supply.

III. A. Is there potential for substantial harm or danger by the profession or occupation to the public health safety or welfare? How can this potential for substantial harm or danger be recognized?

The potential for substantial harm or danger to the public was summarized in the responses to items I.A. and II.A. Unfortunately, the public does not have enough technical knowledge in the critical areas, in order to make a determination regarding competence [i.e. geology, hydrogeology, proper well construction and development, well disinfection, contamination concerns, and well vulnerability, pump settings, selection/installation, etc.]. Since the final product that is delivered is underground and unavailable for inspection without specialized testing equipment, the public must accept the word of the well contractor and pump contractor that the well and pump have been installed in a safe and legal fashion.

III B. Has this potential harm or danger to the public been recognized by other states or the federal government through the licensing or certification process? Please list the other states and give the relevant statutory citations.

The federal government has deferred to the states in the matter of well/pump contractor licensing/certification. Approximately 70% of the States have recognized a need to license/certify those who engage in these activities. Those states include the following:

Arizona	Georgia	Maryland	New Jersey
Arkansas	Hawaii	Massachusetts	Mexico
California	Idaho	Minnesota	Oklahoma
Colorado	Illinois	Mississippi	Oregon
Connecticut	Indiana	Missouri	Pennsylvania
Delaware	Iowa	Montana	South Carolina
Florida	Kansas	Nebraska	Texas
Louisiana	Kentucky	Nevada	Virginia
		New Hampshire	Washington

IV. A. What will be the economic advantage of licensing to the public?

Some of the benefits were outlined in the response to item II. A. A summarization of benefits would be that:

- 1) The well owner will benefit in that fewer new wells and pumps will have to be paid for due to contamination resulting from inept well construction/development and/or pump installation/repair.
- 2) The public will benefit from reduced health concerns and associated health care costs resulting from a safer drinking water supply.

IV. B. What will be the economic advantages of licensing to the public?

It is anticipated that well drillers and pump installer will pay a yearly certification fee of \$125.00 or less. A well contractor or pump contractor that constructs 50 wells or installs 50 pumps per year, respectively, would spread the cost among well owners, thus increasing the cost to those owner of \$2.00- \$3.00 per well. It is not unusual for drillers or pump installers to construct more than 50 wells or install more than 50 pumps per year.

IV. C. What will be the economic advantages of licensing to the practitioners?

The well contractors/pump contractors will benefit from increased business as the certification process weeds out those who lack the skills to be performing the work.

IV. D. What will be the economic disadvantages of licensing to the practitioners?

There should be no economic disadvantage to the majority of well/pump contractors who have the requisite knowledge, skills and abilities. However, those who lack those skills will not be allowed to conduct those activities until they have rectified those deficiencies.

IV. E. Please give other potential benefits to the public of licensing that would outweigh the potential harmful effects of licensure such as a decrease in the availability of practitioners and higher cost to the public.

The potential benefits versus potential harm are identified in the responses to items I. A., II. A., and IV. A.

V. A. Please detail the specific specialized skills or training that distinguish the occupation or profession from ordinary labor. How is each justified?

A number of specialized skills are required for well and pump contractors. Some of those skills and the adverse effects that can result from a lack of those skills, is as follows:

For Well Contractors:

- 1) familiarity with the operation and maintenance of drilling rigs and associated equipment,
- 2) familiarity with the advantages and disadvantages of the various well casings, well screens, drilling bits, specialized tools and circulation fluids,
- 3) familiarity with the various geologic formations found in the state and the problems associated with drilling in each geologic environment,
- 4) familiarity with the proper methodologies to be used in the development and disinfection of wells,
- 5) familiarity with the causes of contamination and the methodology to be used in order to most protect the well.

Lack of familiarity with these aspects of well drilling can result in the introduction of contamination into the water supply; use of well construction materials that are improper or incompatible with the area geology or quality of the groundwater; attempts to use equipment of limited capacity to install a well that cannot be properly constructed without different equipment, method or materials; and inability to identify and rectify problems that occur due to a deficiency in one of the five items listed above

For Pump Contractors:

- 5) familiarity with the physical characteristics of the pumps currently available and their advantages and disadvantages,
- 6) familiarity with the methods used to prevent pump burnout, sediment clogging, and insufficient supply,
- 7) familiarity with the causes of well contamination and the proper methods of installing pumps and lines such that the water supply is protected,
- 8) familiarity with the methods used to pull, repair, and replace pumps without damaging the well or introducing contaminants.

Lack of familiarity with these aspects of pump installation/repair can result in underpowered pumps, leading to pump burnout; incorrect pump settings that result in a restricted flow or turbid water; and introduction of bacterial or other contamination and/or inability to properly disinfect the well and pump equipment after installations.

- IV. B. What are other qualities of the profession or occupation that distinguish it from ordinary labor?

See the responses to items IV. A. and VII.

- VI. A. Will certification requirements cover all practicing members of the occupation or profession? If any practitioners of the profession or occupation will be exempt, what is the rationale for the exemption?

Certification requirements will apply to anyone in the trade or business of well contracting or pump contracting.

Certification requirements would not apply to:

- (1) An individual who performs labor or services for, and under the supervision of, a certified contractor;
- (2) Individuals who construct wells or install pumps on land that owner or leased by that individual;
- (3) Any individual who installs or repairs pumps and holds a valid Grade A, B, or C water Treatment Facility Well Certificate issued in accordance with Article 2, Chapter 90A of the General Statutes; and
- (4) An individual who installs or repair pumps and is employed by any subdivisions of government; or any person, from a corporation holding a valid Certificate of Public Convenience and Necessity issued by the N.C. Utilities Commission in accordance with Article 6, Chapter 62 of the General Statutes.

- VI. B. What is the approximate number of persons who will be regulated and the number of persons who are likely to utilize the services of the occupation or profession?

More than 50% of the citizens of North Carolina rely on groundwater for their drinking water supply. Each of these must have a water supply well. Each citizen relying on an improperly constructed water supply well runs the risk of groundwater contamination and the associated health risks each time it rains. As new wells are constructed by uncertified and potentially unqualified people, additional citizens are exposed to potential health risk. At the present time there are 625 registered well contractors and 725 registered pump contractors.

Well Contractors are required to notify the DEHNR whenever a new well is drilled. The following shows the number of new wells that have been drilled for the last three years in North Carolina:

1992	7,394 new wells
1993	7,412 new wells
1994	7,289 new wells

VII. What kind of knowledge or experience does the public need to have to be able to evaluate the services offered by the occupation or profession?

The proper construction/repair of a drinking water supply well, and the proper installation/repair of associated pumping equipment are specialized skills the ordinary homeowner cannot perform. In addition, some of these activities require specialized equipment and technical expertise to operate it. [NOTE: The capital expense involved with acquiring some drilling rigs can run as much as \$400,000. This investment is beyond the ability of most homeowners.] Since the final product [i.e. well or pump] that is delivered is underground and unavailable for inspection without specialized testing equipment, the public must accept the word of the well contractor and pump contractor that the well and pump have been installed in a safe and legal fashion. Given this situation, the public should be able to be confident that the well or pump contractor had been evaluated for and certified as having the requisite training and experience to provide them with a dependable, safe well/pump system that meets applicable industry standards and state rules.

VIII. Does the occupational group have an established code of ethics, a voluntary certification program, or other measures to ensure a minimum quality of service? Please document.

Two associations exist for well contractors/pump contractors. These are the North Carolina Groundwater Association (NCGA) and the National Water Well Association (NWWA). Membership in both organizations is voluntary and only a percentage of practicing well contractors/pump contractors join. Approximately 35% of the registered well contractors in North Carolina are members of the North Carolina Groundwater Association. Both the NCGA and the NWWA have a voluntary code of ethics, and the NWWA currently maintains a voluntary certification program.

IX. Please cite and document the extent to which any other licensing board in North Carolina regulates similar or parallel functions to the profession or occupation.

There is presently no licensing or certification Board in North Carolina that has any jurisdiction over those individuals who engage in the trade or business of well or pump contracting.